

ABSTRACT

A low-cost ferritic steel sheet possessing not only formability enabling application to complexly configured automobile exhaust gas passage components but also high-temperature strength, high-temperature oxidation resistance and low-temperature toughness as good as or superior to existing ferritic steels, which ferritic steel sheet comprises, in mass percent, C : not more than 0.02%, Si : 0.7 – 1.1%, Mn : not more than 0.8%, Ni : not more than 0.5%, Cr : 8.0 to less than 11.0%, N : not more than 0.02%, Nb : 0.10 – 0.50%, Ti : 0.07 – 0.25%, Cu : 0.02 – 0.5%, B : 0.0005 – 0.02%, V : 0 (no addition) – 0.20%, one or both of Ca and Mg : 0 (no addition) – 0.01% in total, one or more elements among Y and rare earth elements : 0 (no addition) – 0.20% in total, and the balance of Fe and unavoidable impurities, and satisfies $3\text{Cr} + 40\text{Si} \geq 61$, $\text{Cr} + 10\text{Si} \leq 21$, and $420\text{C} - 11.5\text{Si} + 7\text{Mn} + 23\text{Ni} - 11.5\text{Cr} - 12\text{Mo} + 9\text{Cu} - 49\text{Ti} - 25(\text{Nb} + \text{V}) - 52\text{Al} + 470\text{N} + 189 \leq 70$.